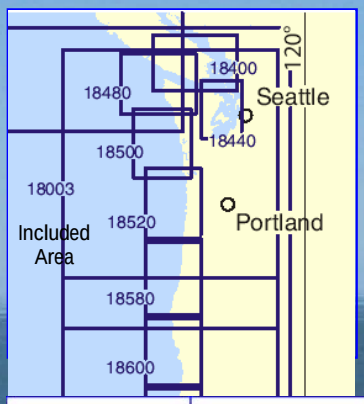
BookletChart™

Cape Blanco to Cape Flattery

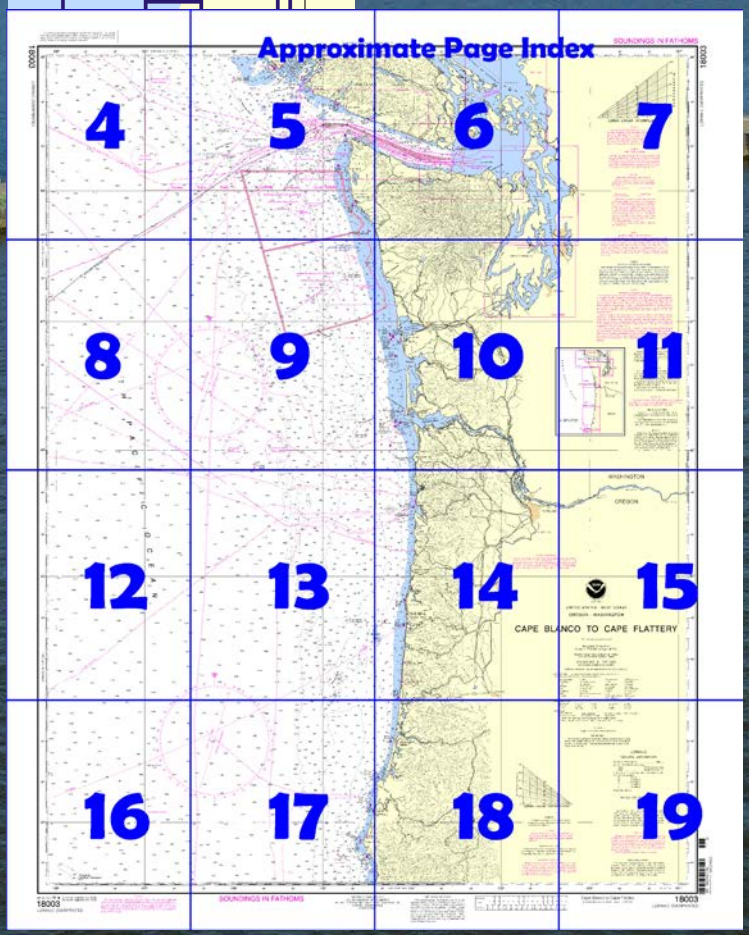
NOAA Chart 18003

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.



- *Complete, reduced-scale nautical chart*
- *Print at home for free*
- *Convenient size*
- *Up-to-date with Notices to Mariners*
- *Compiled by NOAA's Office of Coast Survey, the nation's chartmaker*



Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=18003.

(Selected Excerpts from Coast Pilot)
The coast is low and sandy for about 3 miles N of Nehalem River entrance, then a dense forest begins which rises gradually to the S slope of Neahkahnie Mountain. There are grassy hillocks, 40 to 100 feet high, in the vicinity of the beach.
Cape Falcon, 17 miles N of Cape Meares and 10 miles S of Tillamook Rock, projects about 2 miles from the general trend of the coast. The seaward face, less than 0.5 mile in extent, is very jagged with numerous rocks under the cliffs. The SW point of the cape is composed of nearly vertical cliffs, 200 feet high, and is partially timbered. **Falcon Rock**, 0.7 mile W of the cape, is small and not very conspicuous.
Smuggler Cove, a small bight just S of Cape Falcon, is an excellent anchorage for small boats. The best anchorage is close to the N shore in 4 to 5 fathoms, protected from all except SW winds. Care should be taken to avoid two rocks, bare at extreme low water, that are about 150 yards from the N shore of the cove and rise abruptly from deep water. In 1983, a sunken crane barge with 30 feet over it was reported about 0.8 mile S of Cape Falcon in about 45°44.9'N., 123°58.6'W.
Neahkahnie Mountain, 2.8 miles inland of Cape Falcon, is a prominent landmark, and the most important feature for locating Nehalem River. The W summit of the double-headed mountain is rounded and 1,900 feet high, but the E summit is serrated and divided into three peaks of nearly equal height. The entire SE slope is bare of timber, but is covered with grass and fern. The seaward face terminates in rocky broken cliffs over 500 feet high, and there are a few rocks about 100 feet from the beach. The two summits are visible from S; from N, the W summit hides the E and is very conspicuous.
NE of Cape Falcon, and 2 to 3 miles back from the shoreline, is a group of peaks; the highest and most prominent has a rounded summit, with a very gentle slope to the S and a more marked and abrupt drop to the N. It is very conspicuous from W in clear weather.
Arch Cape, rocky and precipitous, projects slightly from the general trend of the coast. It is the termination of a mountain ridge rising to 2,775 feet about 3 miles E. The cape is bare of timber. A high rock is close to the cape and connected with it at low water. A smaller rock is about 100 yards seaward of the larger. There are several other high rocks in the vicinity of the cape.
Castle Rock derives its name from its remarkable resemblance to a medieval castle with two towers, the taller of which is on the seaward end. It is about 0.8 mile W of the highest part of Arch Cape, and is the outermost bare rock. The upper part of the rock is covered with bird droppings and shows up very distinctly in sunlight. A rock awash is about 0.9 mile off the cape and 0.4 mile SW of Castle Rock; another rock, bare at lowest tides, is 0.5 mile offshore and 1 mile S of Castle Rock.
Hug Point is a small cliff close to the beach, 1.8 miles N of Arch Cape; the cliffs in its vicinity are above 180 feet high.
Double Peak, halfway between Cape Falcon and Tillamook Head, is the seaward end of a ridge extending E that reaches a height of 1,050 feet in less than 0.7 mile from the shore. It is heavily wooded and pitches abruptly to the sea, ending in a rocky broken cliff 100 feet high and 0.2 mile long. A rock is close to and abreast of the S end of the cliff; another rock is close to and abreast the N end. A ledge, with two rocks that uncover about 4 feet, is about a mile WSW of the highest part of the cliff.
From Double Peak, the coast extends N for 2.7 miles to the mouth of **Ecola Creek**, and then turns sharply NW for the same distance to the W point of Tillamook Head. The coast is high and wooded with broken cliffs bordered by numerous rocks, except at Cannon Beach at the mouth of Ecola Creek.
Haystack Rock, 1.5 miles N of Double Peak, is the largest of a cluster of rocks stretching out from the low-water line to 10 fathoms. A rock awash at low water and surrounded by about 9 fathoms is 0.8 mile SW of Haystack Rock.

U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies

RCC Alameda	Commander 11th CG District Alameda, CA	(510) 437-3700

Table of Selected Chart Notes

Corrected through NM Nov. 04/06
Corrected through LNM Oct. 24/06

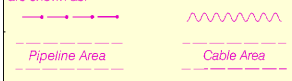
HEIGHTS

Heights in feet above Mean High Water.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:



Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

NOTE B

Mariners should use caution as naval craft may be maneuvering within the areas. For further information consult U.S. Coast Guard Local Notice to Mariners.

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

Mercator Projection
Scale 1:736,560 at Lat. 46°00'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

NOTE S

Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

NOTE C

A Cooperative Vessel Traffic Services (CVTS) system has been established by the United States and Canada within the adjoining waters in the Juan de Fuca Region. The appropriate Vessel Traffic Center (VTC) (Tofino Traffic, Seattle Traffic, Vancouver Traffic) administers the rules issued by both nations, however, it will enforce only its own set of rules within its jurisdiction.

NOTE F

Acoustic sensors, consisting of a concrete anchor and tethered instrument package floating above the anchor, are positioned approximately 1000 yards apart along the line. The depth of the floating portion of the instrument varies with local bottom depth. For instruments anchored at less than 150m depth (near shore), the floating portion of the instrument is within 5m of the bottom. For instruments anchored at 150m depth or greater, the instrument package is tethered approximately 150m below the water surface.

MAGNETIC VARIATION

Magnetic variation curves are for 2006 derived from 2005 World Magnetic Model and accompanying secular change. If annual change is in same direction as variation it is additive and the variation is increasing. If annual change is opposite in direction to variation it is subtractive and the variation is decreasing.

NOTE D

AREA TO BE AVOIDED

In order to reduce the risk of a marine casualty and resulting pollution and damage to the environment of the Olympic Coast National Marine Sanctuary, all ships and barges that carry oil or hazardous materials in bulk as cargo or cargo residue and all ships 400 gross tonnage and above solely in transit should avoid the area. See IMO SN circular 309.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, Washington or at the Office of the District Engineer, Corps of Engineers in Seattle, Washington.

Refer to charted regulation section numbers.

VESSEL TRANSITING

The U.S. Coast Guard and the Pacific States/British Columbia Oil Spill Task Force endorse a system of voluntary measures and minimum distances from shore for certain commercial vessels transiting along the coast anywhere between Cook Inlet, Alaska and San Diego, California. See U.S.Coast Pilot 7 or 8 , Chapter 3 for details.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, National Geospatial-Intelligence Agency, and Canadian authorities.

NOTE I

RECOMMENDED TWO-WAY ROUTE

The recommended two-way route south of the traffic separation scheme (TSS) formalizes traffic patterns where slower vessels such as tug and barge traffic and fishing vessels pass starboard to starboard. Slower moving traffic transiting eastbound should follow the route established south of the TSS and north of the recommended two-way route line depicted on the chart. Slower moving traffic transiting westbound should follow the route established south of the recommended two-way route line.

NOTE E

NATIONAL MARINE SANCTUARIES

National Marine Sanctuaries are protected areas, administered by NOAA which contain abundant and diverse natural resources such as marine mammals, seabirds, fishes, and tidepool invertebrates. These areas are particularly sensitive to environmental damage such as spills of oil and other hazardous materials, discharges, and groundings. Exercise particular caution and follow applicable Sanctuary regulations when transiting these areas to avoid environmental impacts. A full description of Sanctuary regulations may be found in 15 CFR Part 922 and in the Coast Pilot.

LORAN-C

GENERAL EXPLANATION

LORAN-C FREQUENCY ..... 100kHz.
PULSE REPETITION INTERVAL
9940 ..... 99,400 Microseconds
5990 ..... 59,900 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M ..... Master
W ..... Secondary
X ..... Secondary
Y ..... Secondary
Z ..... Secondary
EXAMPLE: 9940-X

RATES ON THIS CHART

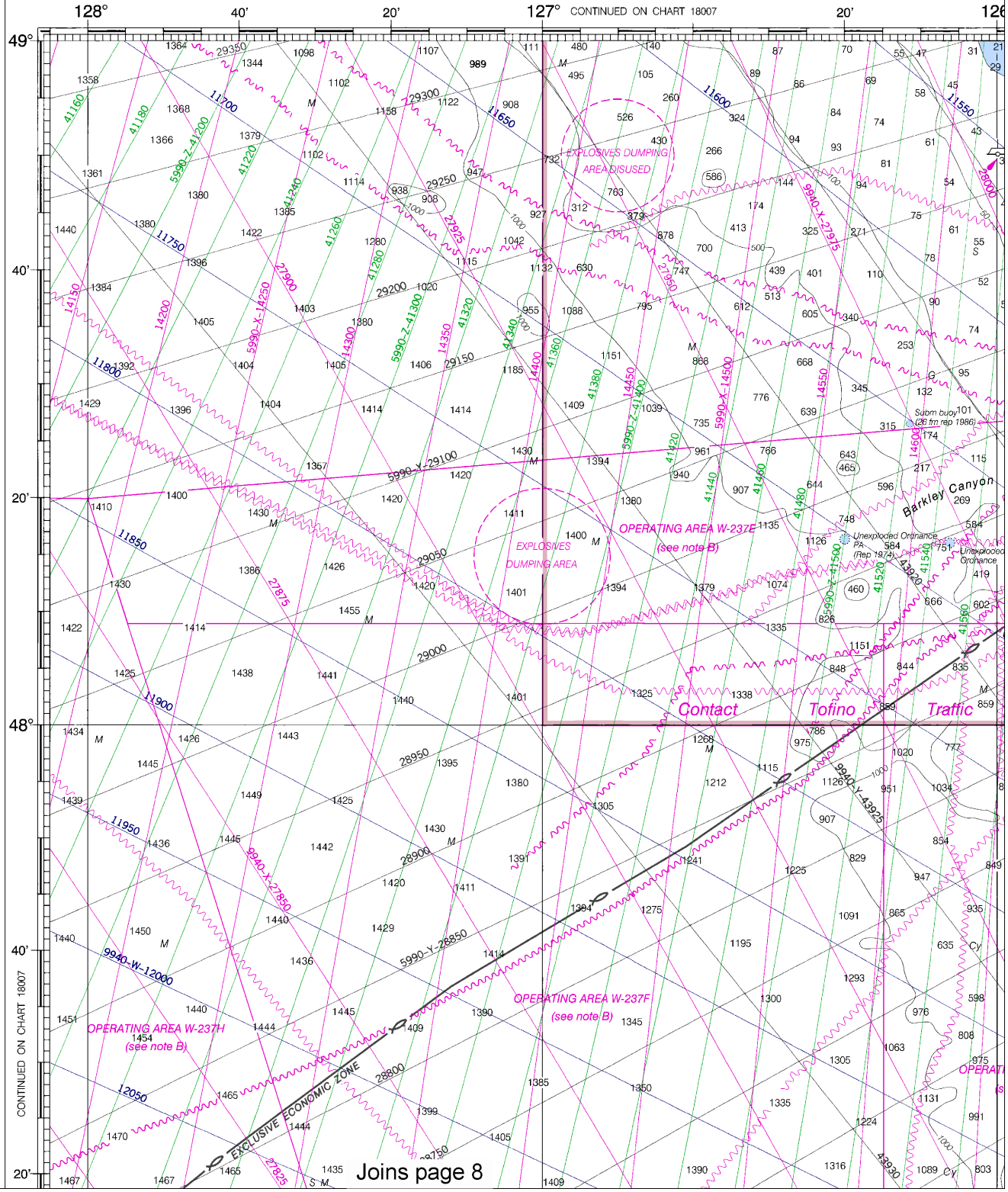
9940-W 9940-X 9940-Y
5990-X 5990-Y 5990-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are presently compensated only for average theoretical propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Skywave corrections are not provided.

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

18003

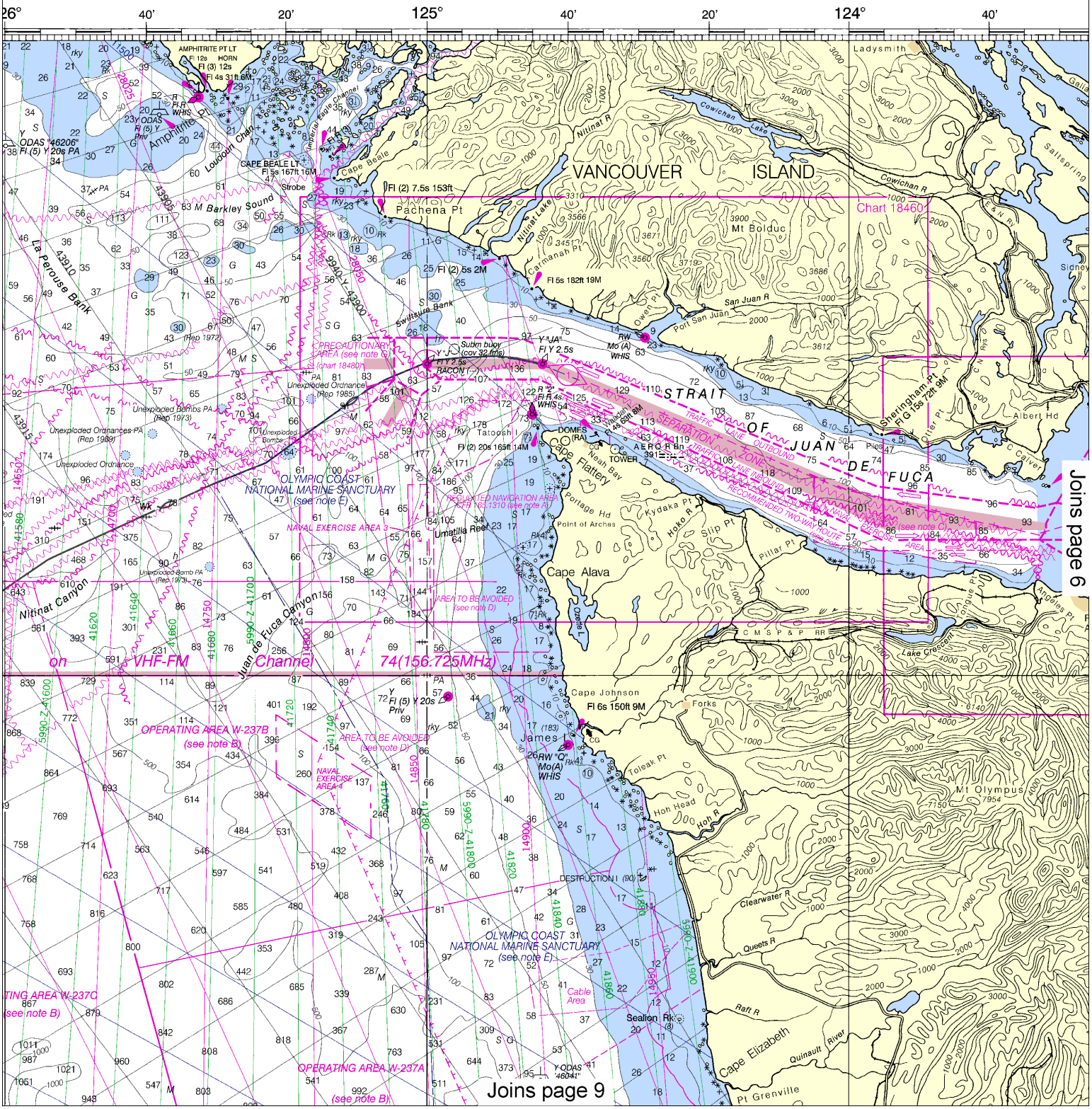
LORAN-C OVERPRINTED



4

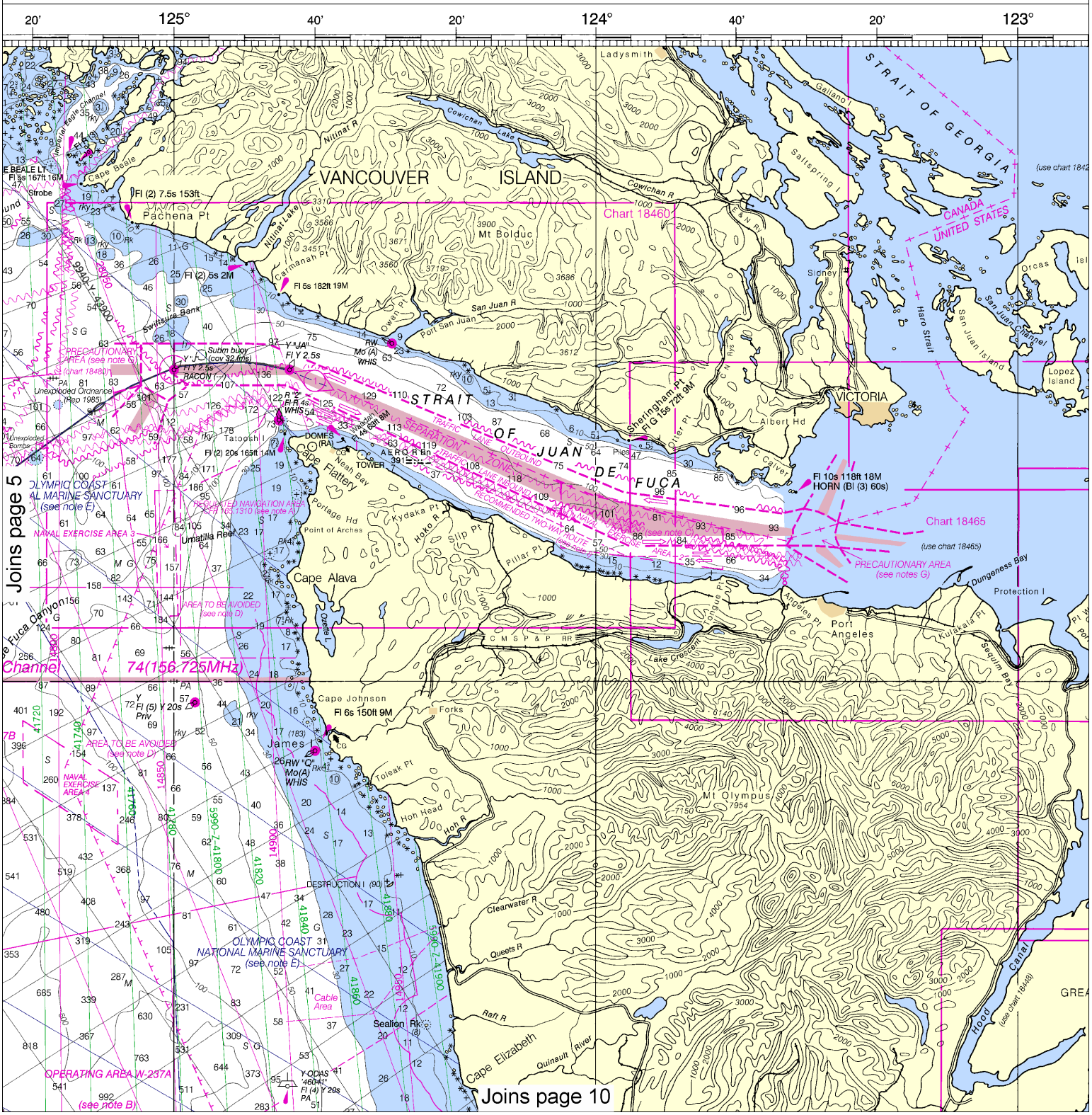
Note: Chart grid lines are aligned with true north.

Formerly C&GS 5022, 1st Ed., May 1949 G-1948-726 KAPP 1651



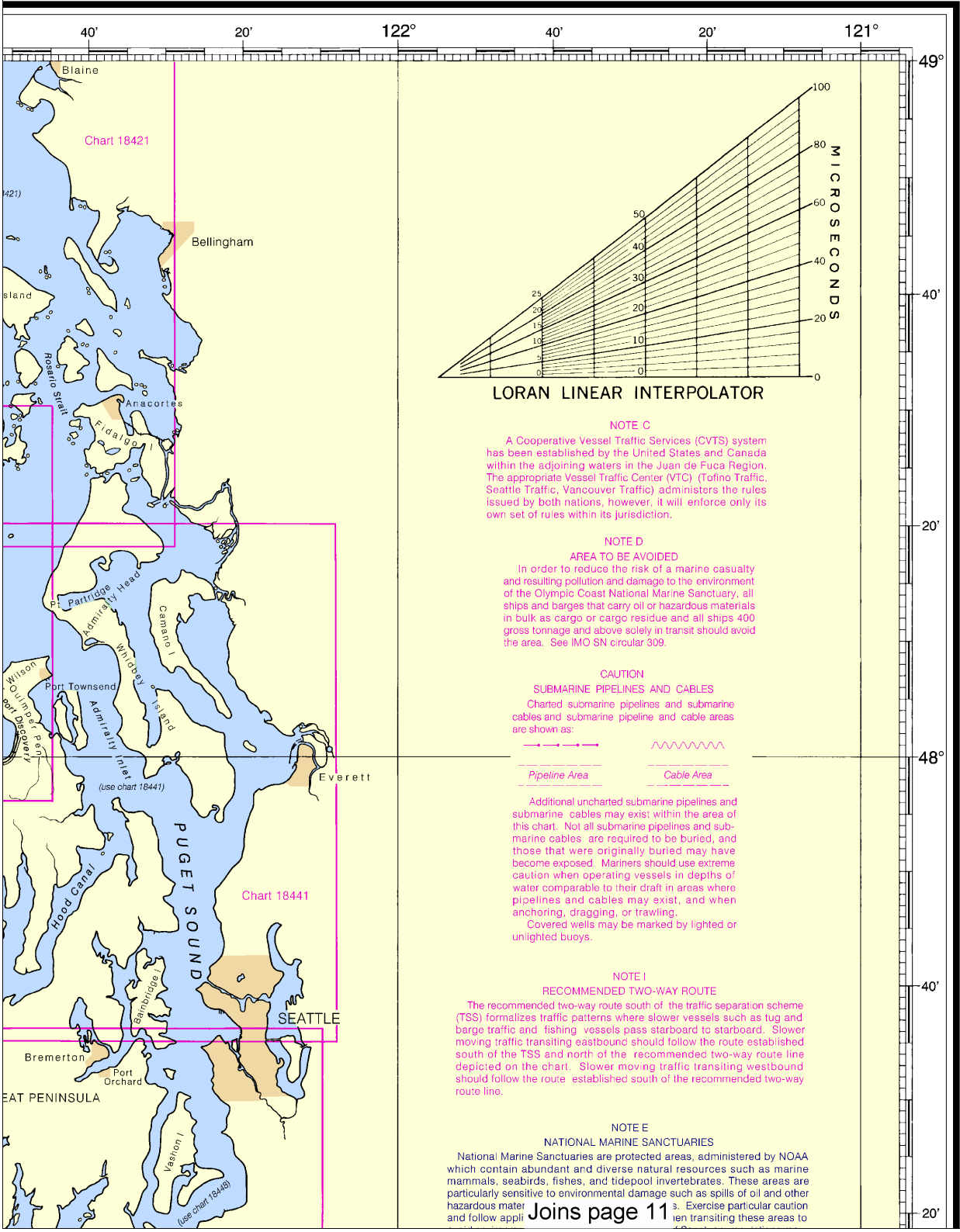
This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:982080. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

Formerly C&GS 5022, 1st Ed., May 1949 G-1948-726 KAPP 1651



Note: Chart grid lines are aligned with true north.

SOUNDINGS IN FATHOMS



LORAN LINEAR INTERPOLATOR

NOTE C

A Cooperative Vessel Traffic Services (CVTS) system has been established by the United States and Canada within the adjoining waters in the Juan de Fuca Region. The appropriate Vessel Traffic Center (VTC) (Tofino Traffic, Seattle Traffic, Vancouver Traffic) administers the rules issued by both nations, however, it will enforce only its own set of rules within its jurisdiction.

NOTE D

AREA TO BE AVOIDED

In order to reduce the risk of a marine casualty and resulting pollution and damage to the environment of the Olympic Coast National Marine Sanctuary, all ships and barges that carry oil or hazardous materials in bulk as cargo or cargo residue and all ships 400 gross tonnage and above solely in transit should avoid the area. See IMO SN circular 309.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Pipeline Area *Cable Area*

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

NOTE I

RECOMMENDED TWO-WAY ROUTE

The recommended two-way route south of the traffic separation scheme (TSS) formalizes traffic patterns where slower vessels such as tug and barge traffic and fishing vessels pass starboard to starboard. Slower moving traffic transiting eastbound should follow the route established south of the TSS and north of the recommended two-way route line depicted on the chart. Slower moving traffic transiting westbound should follow the route established south of the recommended two-way route line.

NOTE E

NATIONAL MARINE SANCTUARIES

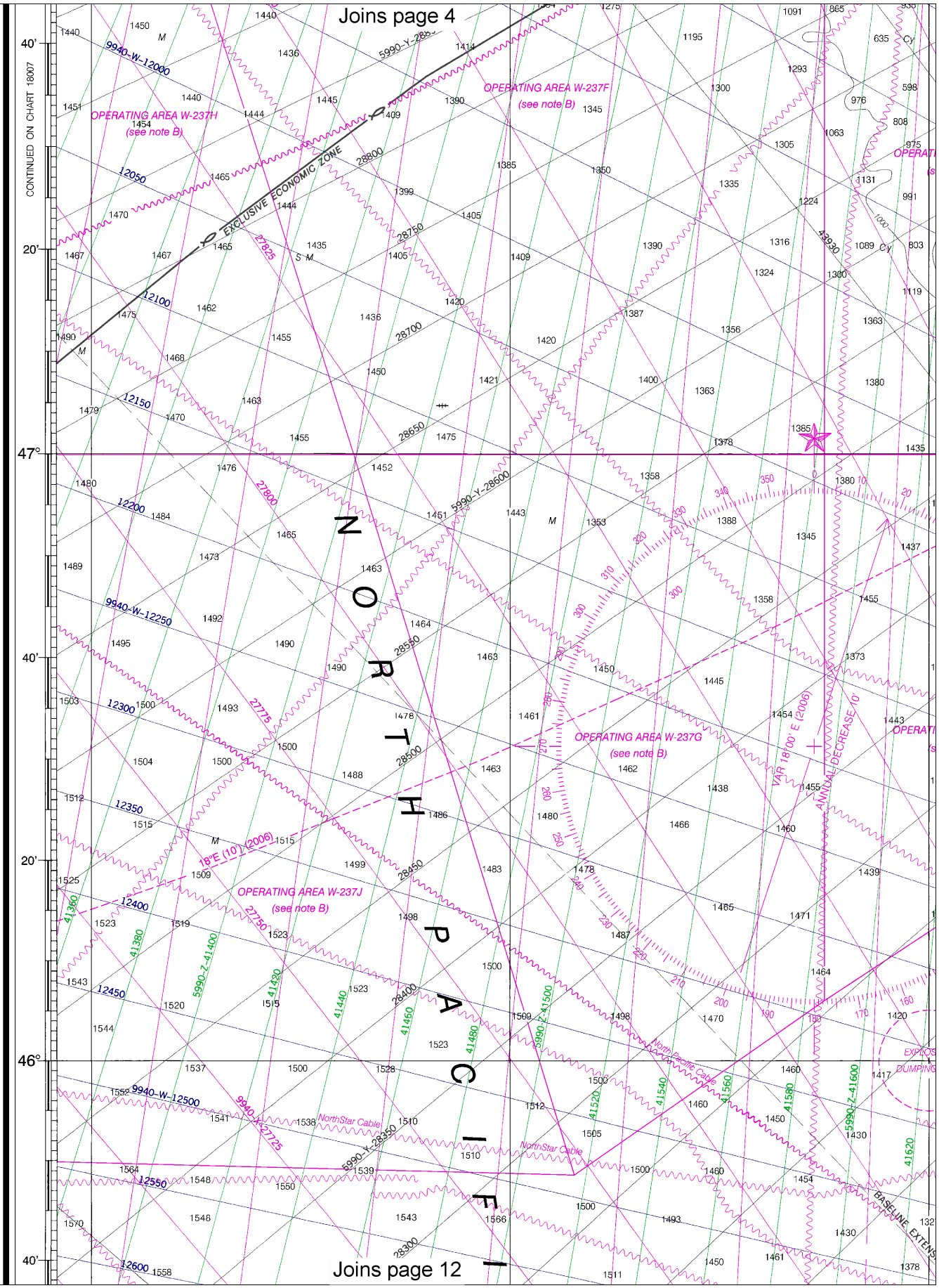
National Marine Sanctuaries are protected areas, administered by NOAA which contain abundant and diverse natural resources such as marine mammals, seabirds, fishes, and tidepool invertebrates. These areas are particularly sensitive to environmental damage such as spills of oil and other hazardous mater s. Exercise particular caution and follow appli en transiting these areas to

Joins page 11

18003

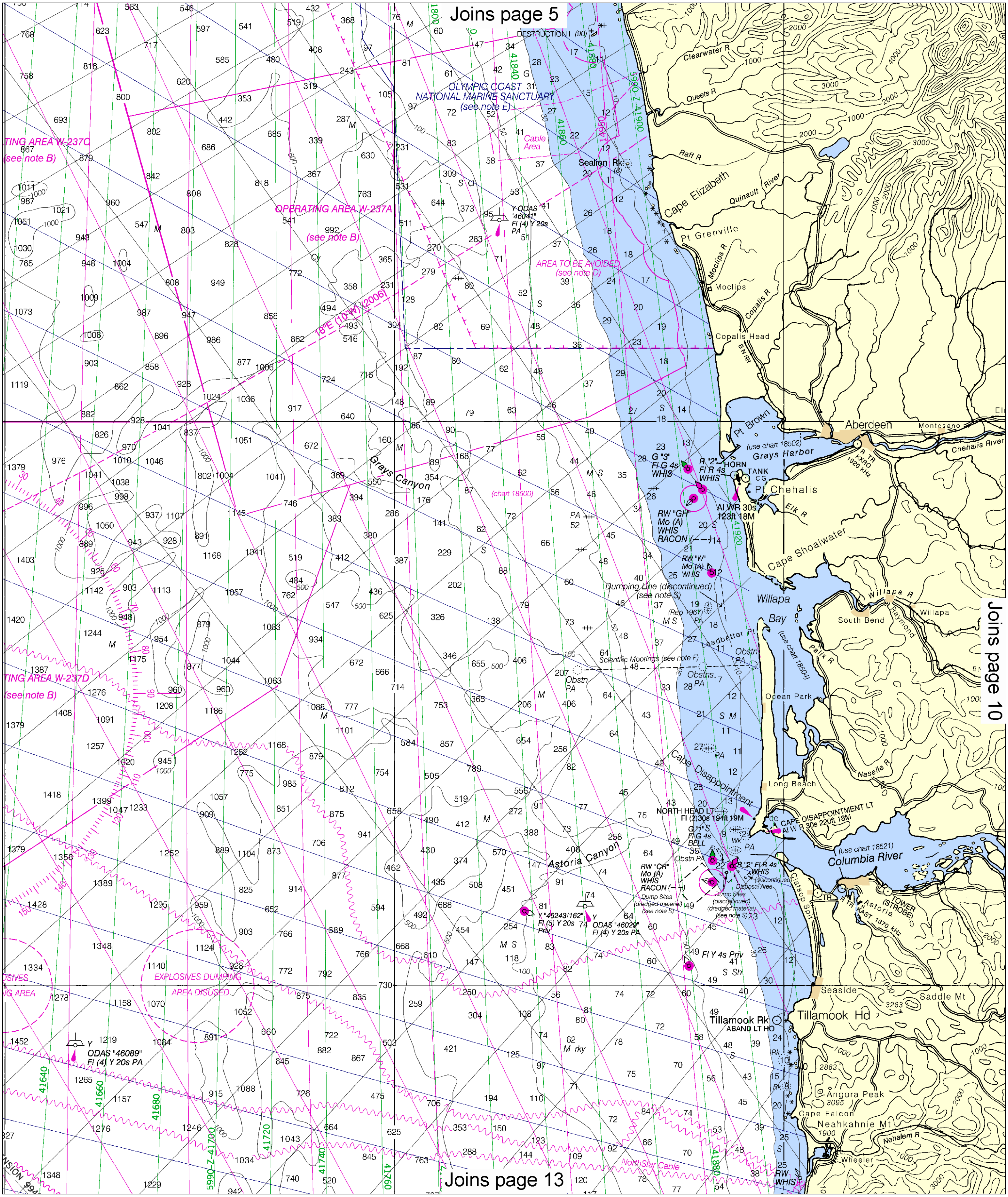
LORAN-C OVERPRINTED

This BookletChart has been updated through: Coast Guard Local Notice To Mariners: 4812 11/27/2012,
NGA Weekly Notice to Mariners: 4812 12/1/2012,
Canadian Coast Guard Notice to Mariners: 0912 9/28/2012.

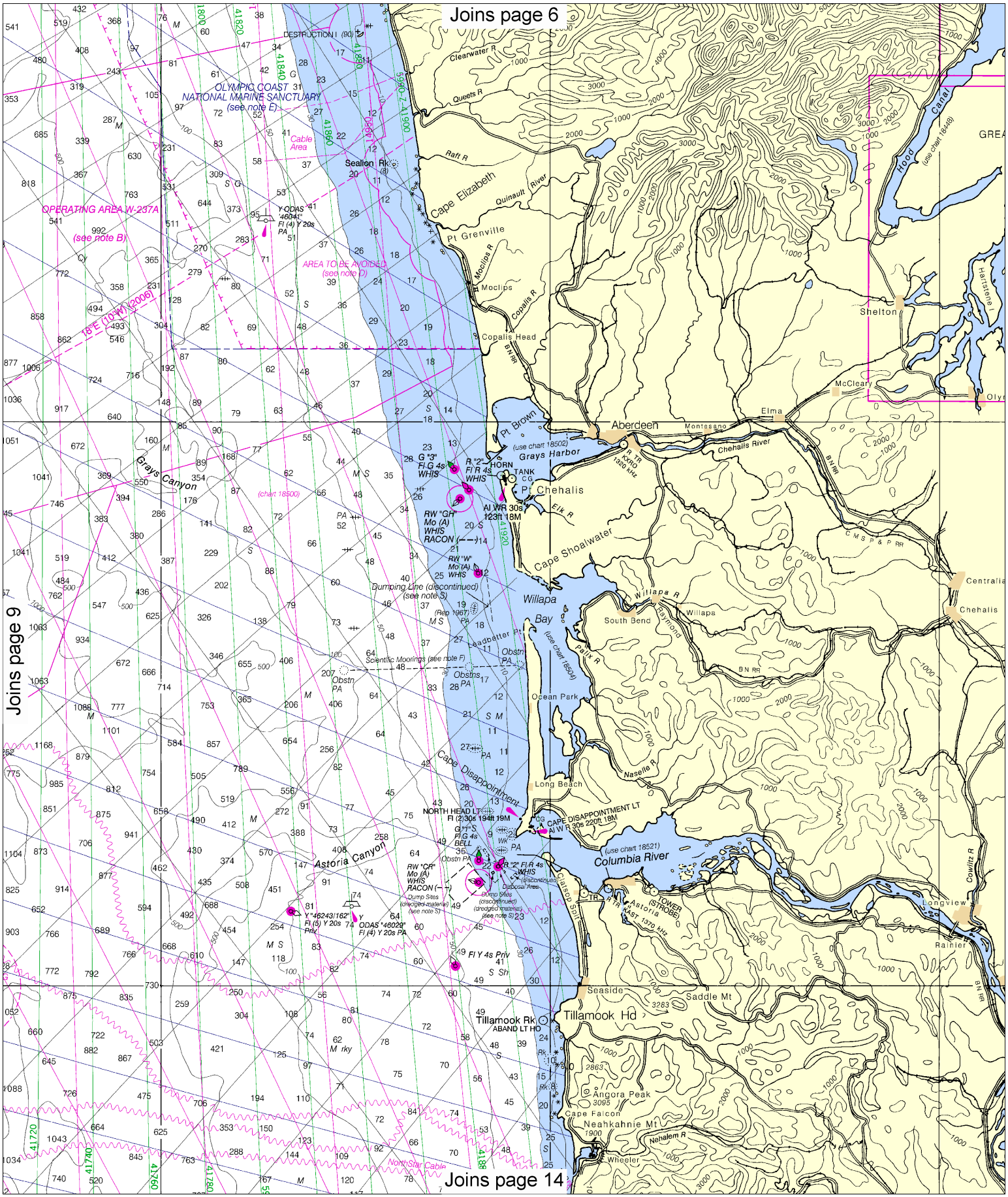


8

Note: Chart grid lines are aligned with true north.



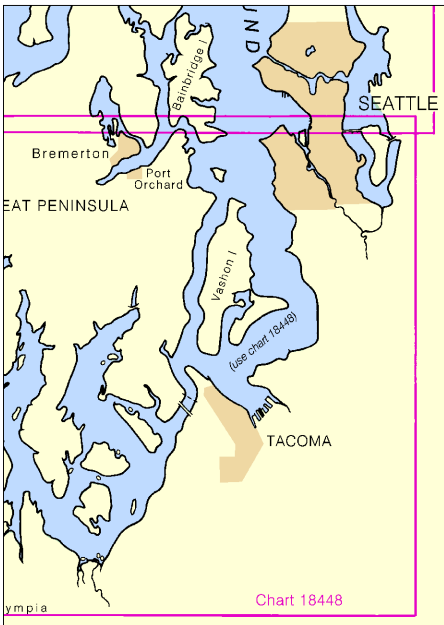
Joins page 5
Joins page 10
Joins page 13
OLYMPIC COAST NATIONAL MARINE SANCTUARY (see note E)
OPERATING AREA W-237A (see note B)
TING AREA W-237C (see note B)
TING AREA W-237D (see note B)
AREA TO BE AVOIDED (see note D)
18°E (10°W) (2006)
Cable Area
DESTRUCTION I (90)
Sealion Rk (8)
Clearwater R
Queets R
Raft R
Quinault River
Cape Elizabeth
Pt Grenville
Moclips R
Moclips
Copalis R
Copalis Head
Pt Brown
Aberdeen
Montesano
Chehalis River
(use chart 18502)
Grays Harbor
Pt Chehalis
Elk R
Cape Shoalwater
Grays Canyon
(chart 18500)
Y ODAS "46041" Fl (4) Y 20s PA
G "3" Fl G 4s WHIS
R "2" Fl R 4s WHIS
HORN
TANK
RW "GH" Mo (A) WHIS RACON
Al WR 30s 123ft 18M
RW "W" Mo (A) WHIS
Dumping Line (discontinued) (see note S)
Willapa Bay
(use chart 18504)
Willapa R
South Bend
Raymond
Willapa
Palix R
Leadbetter Pt
Scientific Moorings (see note F)
Obstn PA
Ocean Park
Cape Disappointment
Long Beach
Naselle R
NORTH HEAD LT Fl (2) 30s 194ft 19M
CAPE DISAPPOINTMENT LT Al W R 30s 220ft 18M
G "1" Fl G 4s BELL
R "2" Fl R 4s WHIS
RW "CR" Mo (A) WHIS RACON
Dump Sites (dredged material) (see note S)
Dump Sites (discontinued) (dredged material) (see note S)
Disposal Area
(use chart 18521)
Columbia River
Clatsop Spit
Astoria
TOWER (STROBE)
KAST 1370 kHz
Astoria Canyon
Y "46243/162" Fl (5) Y 20s Priv
Y ODAS "46029" Fl (4) Y 20s PA
Fl Y 4s Priv
EXPLOSIVES DUMPING AREA DISUSED
Y ODAS "46089" Fl (4) Y 20s PA
Seaside
Saddle Mt
Tillamook Hd
Tillamook Rk ABAND LT HO
Angora Peak
Cape Falcon
Neahkahnie Mt
Nehalem R
Wheeler
NorthStar Cable
RW WHIS



10

Note: Chart grid lines are aligned with true north.

Joins page 7



NOTE I

RECOMMENDED TWO-WAY ROUTE

The recommended two-way route south of the traffic separation scheme (TSS) formalizes traffic patterns where slower vessels such as tug and barge traffic and fishing vessels pass starboard to starboard. Slower moving traffic transiting eastbound should follow the route established south of the TSS and north of the recommended two-way route line depicted on the chart. Slower moving traffic transiting westbound should follow the route established south of the recommended two-way route line.

NOTE E

NATIONAL MARINE SANCTUARIES

National Marine Sanctuaries are protected areas, administered by NOAA which contain abundant and diverse natural resources such as marine mammals, seabirds, fishes, and tidepool invertebrates. These areas are particularly sensitive to environmental damage such as spills of oil and other hazardous materials, discharges, and groundings. Exercise particular caution and follow applicable Sanctuary regulations when transiting these areas to avoid environmental impacts. A full description of Sanctuary regulations may be found in 15 CFR Part 922 and in the Coast Pilot.

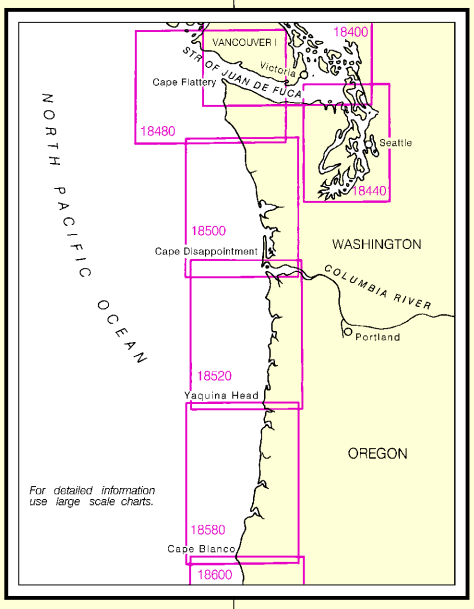
NOTE G

TRAFFIC SEPARATION SCHEME

One-way traffic lanes overprinted on this chart are RECOMMENDED for use by all vessels traveling between the points involved. They have been designated to aid in the prevention of collisions in the Strait of Juan De Fuca waters, but are not intended in any way to supersede or alter the applicable Rules of the Road. Separation zones are intended to separate inbound and outbound traffic and to be free of ship traffic. Separation Zones should not be used except for crossing purposes. When crossing traffic lanes and separation zones, use extreme caution.

Precautionary Areas have been established where major lanes merge and cross the traffic separation scheme. It is recommended that vessels proceed with caution in these areas. Wherever practical, vessels entering or leaving the system should do so at these precautionary areas. For more information regarding Traffic Separation Scheme procedures and regulations, see 33 CFR 167 and / or Chapter 2 of the U.S. Coast Pilot.

For information governing the VESSEL TRAFFIC MANAGEMENT AND INFORMATION SYSTEM for the coastal waters of southern British Columbia, see National Geospatial-Intelligence Agency Publication 154, Sailing Directions (enroute) for British Columbia, and the Sailing Directions British Columbia Coast (South Portion) Volume 1, published by the Canadian Hydrographic Service.



POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
⊙(Accurate location) o(Approximate location)

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

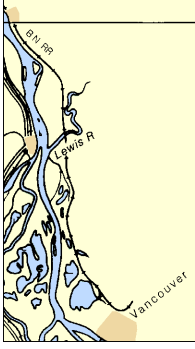
AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

NOTE S

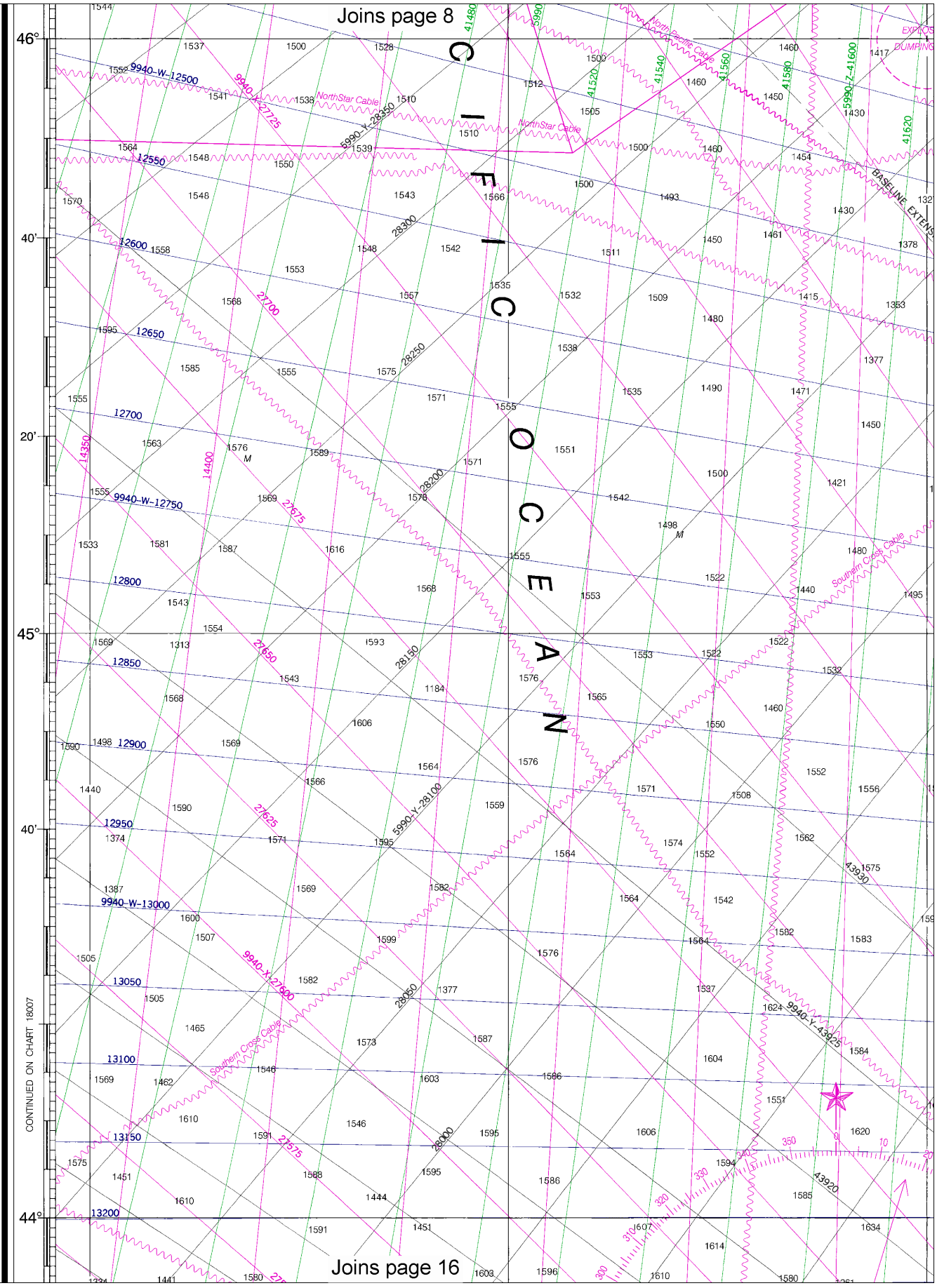
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.



WASHINGTON

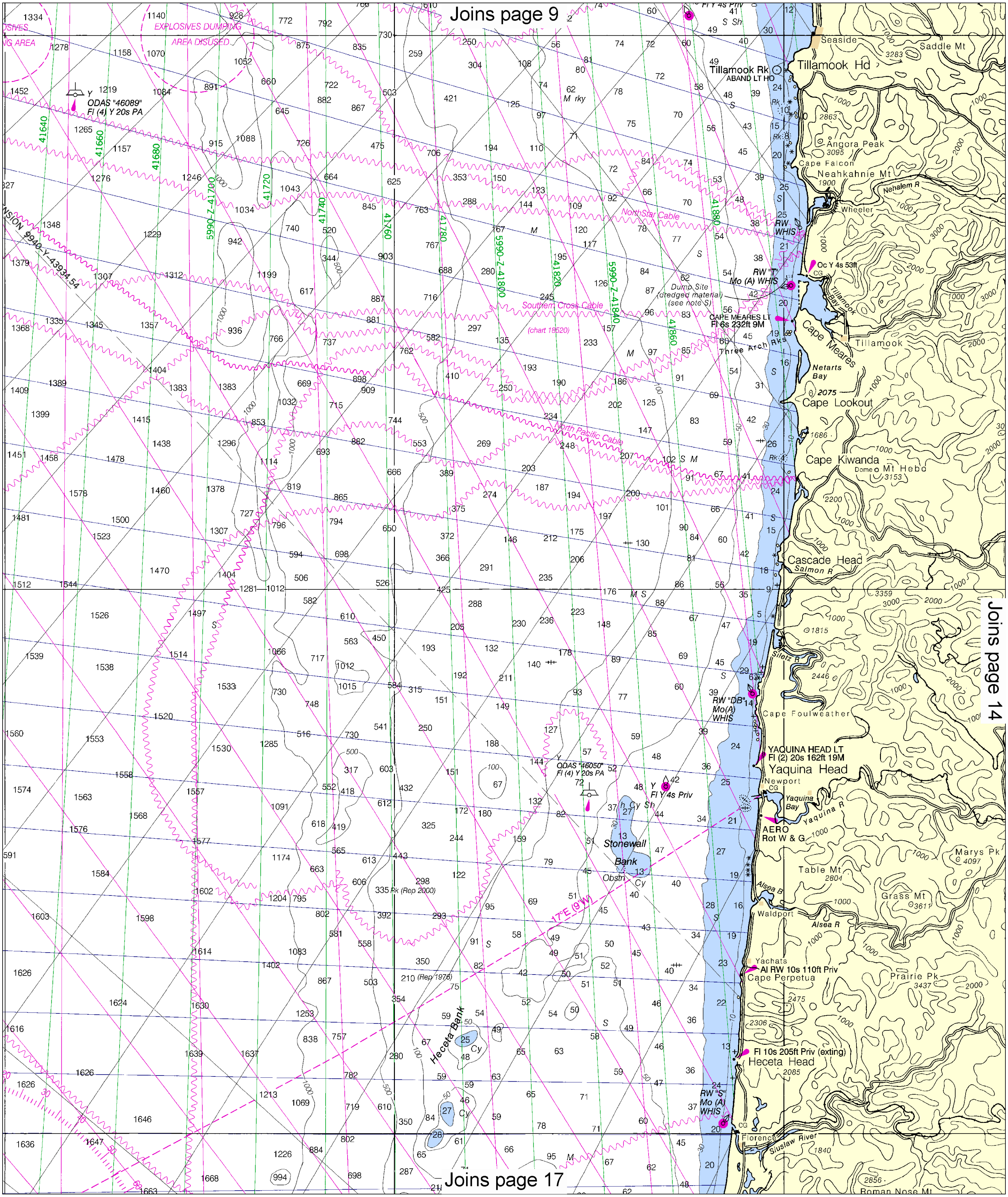
Joins page 15

40'
20'
47°
40'
20'
46°
40'

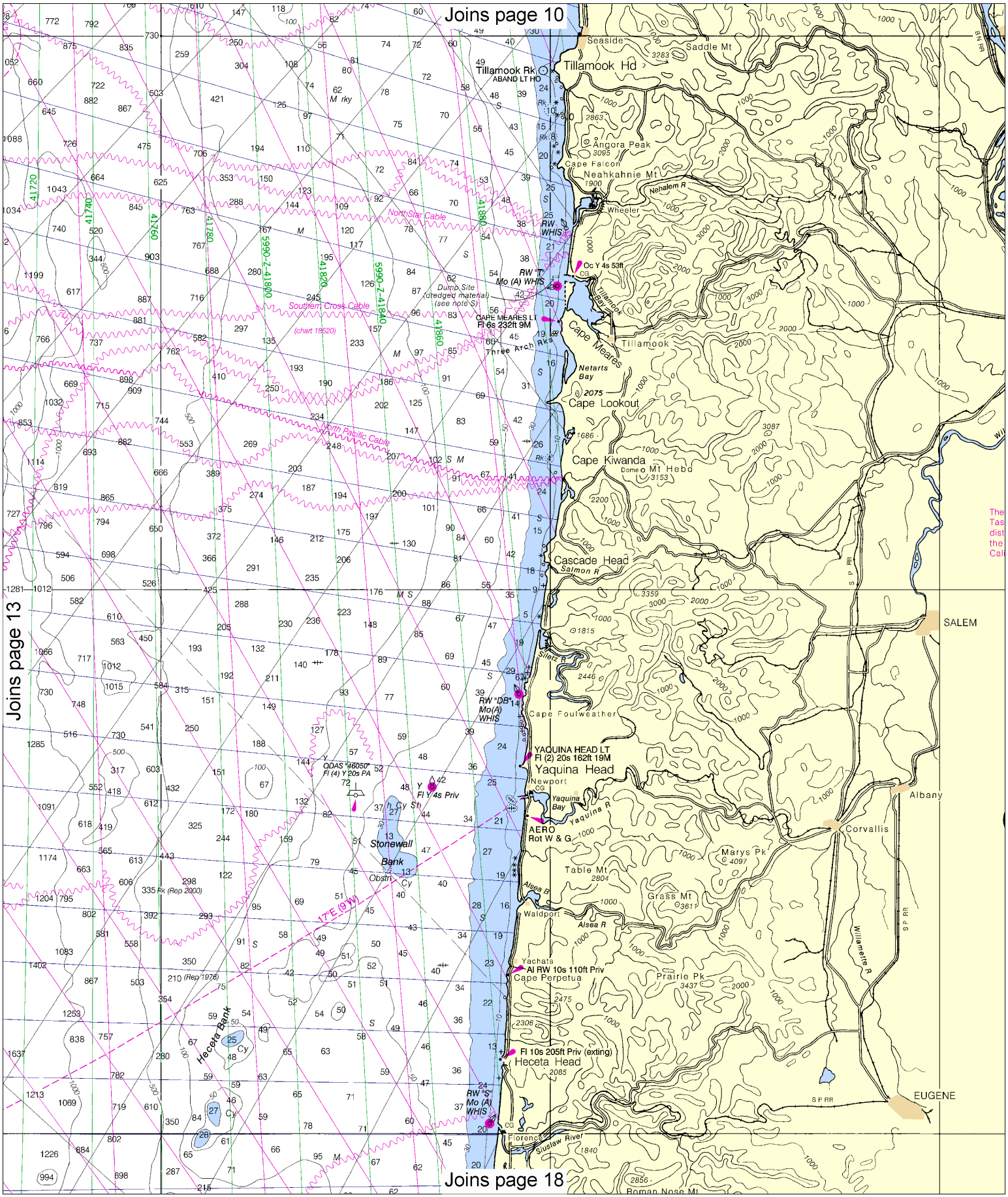


12

Note: Chart grid lines are aligned with true north.



Joins page 9
Joins page 14
Joins page 17
EXPLOSIVES DUMPING AREA DISUSED
ODAS "46089" Fl (4) Y 20s PA
Tillamook Rk
ABAND LT HO
Tillamook Hd
Seaside
Saddle Mt
Angora Peak
Cape Falcon
Neahkahnie Mt
Nehalem R
Wheeler
NorthStar Cable
RW WHIS
Oc Y 4s 53ft
RW "T" Mo (A) WHIS
Dump Site (dredged material) (see note S)
Tillamook Bay
Southern Cross Cable
(chart 18520)
CAPE MEARES LT Fl 6s 232ft 9M
Cape Meares
Three Arch Rks
Tillamook
Netarts Bay
Cape Lookout
North Pacific Cable
Cape Kiwanda
Mt Hebo
Cascade Head
Salmon R
Siletz R
RW "DB" Mo(A) WHIS
Cape Foulweather
YAQUINA HEAD LT Fl (2) 20s 162ft 19M
Yaquina Head
Newport
Yaquina Bay
Yaquina R
AERO Rot W & G
ODAS "46050" Fl (4) Y 20s PA
Y Fl Y 4s Priv
Stonewall Bank
Obstn
Marys Pk
Table Mt
Alsea B
Waldport
Alsea R
Grass Mt
Rk (Rep 2000)
(Rep 1976)
17°E (9°W)
Yachats
Al RW 10s 110ft Priv
Cape Perpetua
Prairie Pk
Heceta Bank
Fl 10s 205ft Priv (exting)
Heceta Head
RW "S" Mo (A) WHIS
Florence
Siuslaw River
Roman Nose Mt

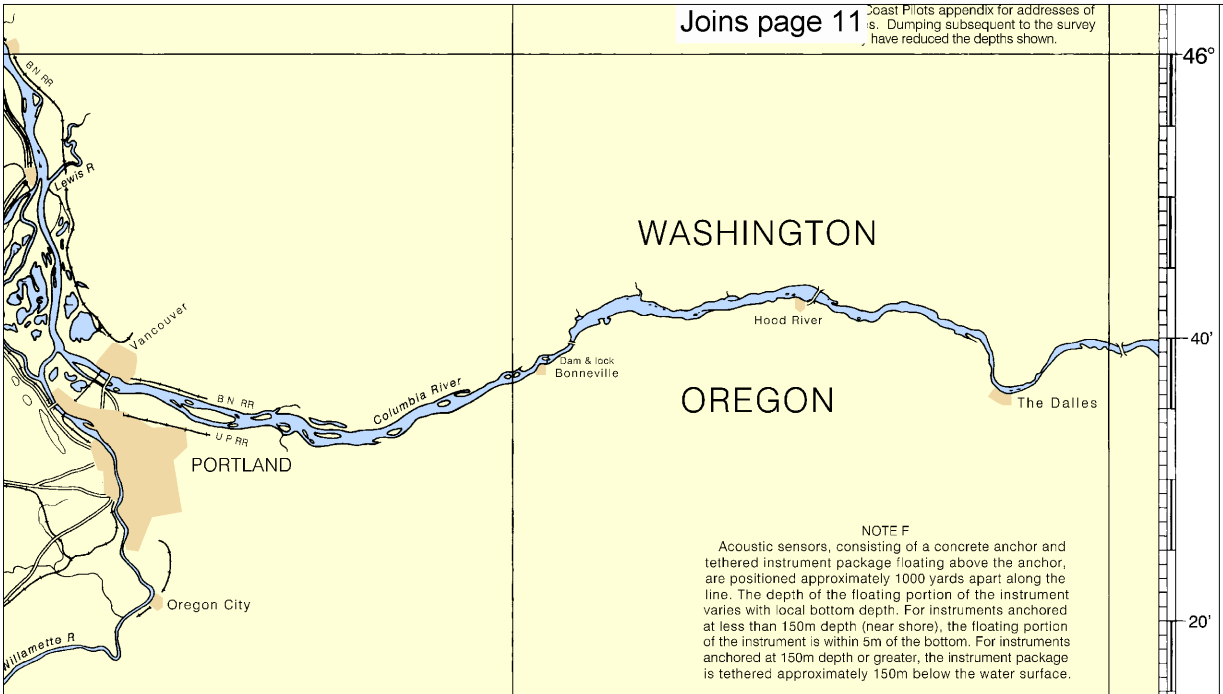


14

Note: Chart grid lines are aligned with true north.

Joins page 11

Coast Pilots appendix for addresses of
s. Dumping subsequent to the survey
have reduced the depths shown.



NOTE F

Acoustic sensors, consisting of a concrete anchor and tethered instrument package floating above the anchor, are positioned approximately 1000 yards apart along the line. The depth of the floating portion of the instrument varies with local bottom depth. For instruments anchored at less than 150m depth (near shore), the floating portion of the instrument is within 5m of the bottom. For instruments anchored at 150m depth or greater, the instrument package is tethered approximately 150m below the water surface.

VESSEL TRANSITING

he U.S. Coast Guard and the Pacific States/British Columbia Oil Spill
ask Force endorse a system of voluntary measures and minimum
stances from shore for certain commercial vessels transiting along
e coast anywhere between Cook Inlet, Alaska and San Diego,
alifornia. See U.S.Coast Pilot 7 or 8 , Chapter 3 for details.

46°
40'
20'
45°
40'
20'
44°

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NOAA
U.S. DEPARTMENT OF COMMERCE
COAST SURVEY

UNITED STATES - WEST COAST

OREGON - WASHINGTON

CAPE BLANCO TO CAPE FLATTERY

(For offshore navigation only)

Mercator Projection
Scale 1:736,560 at Lat. 46°00'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FATHOMS
AT MEAN LOWER LOW WATER

Additional information can be obtained at nauticalcharts.noaa.gov.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

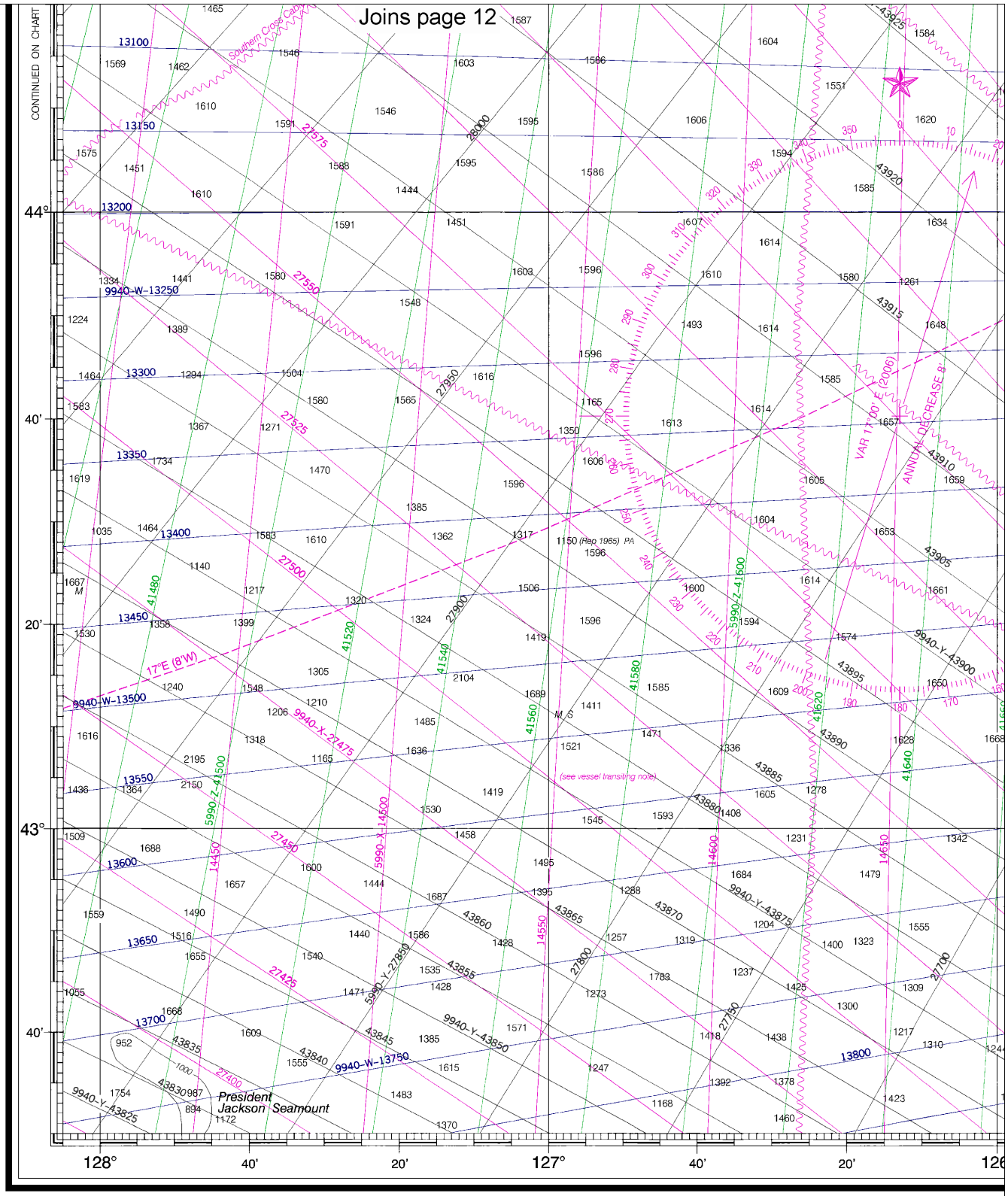
AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:
AUTH authorized Obstn obstruction PD position

Joins page 19



20th Ed., Nov. /06 ■ Corrected through NM Nov. 04/06
Corrected through LNM Oct. 24/06

18003

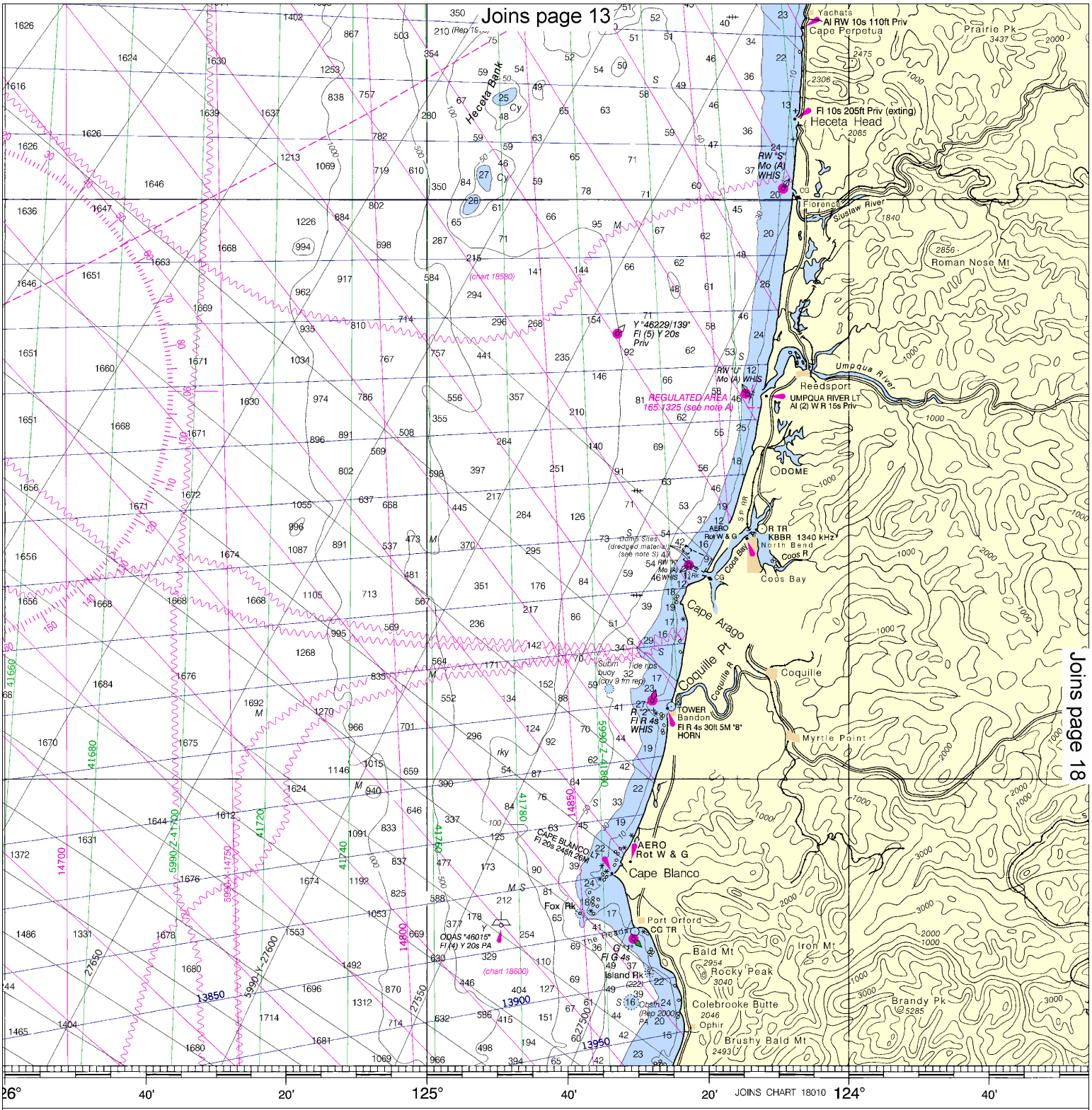
LORAN-C OVERPRINTED

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

SOU

Note: Chart grid lines are aligned with true north.

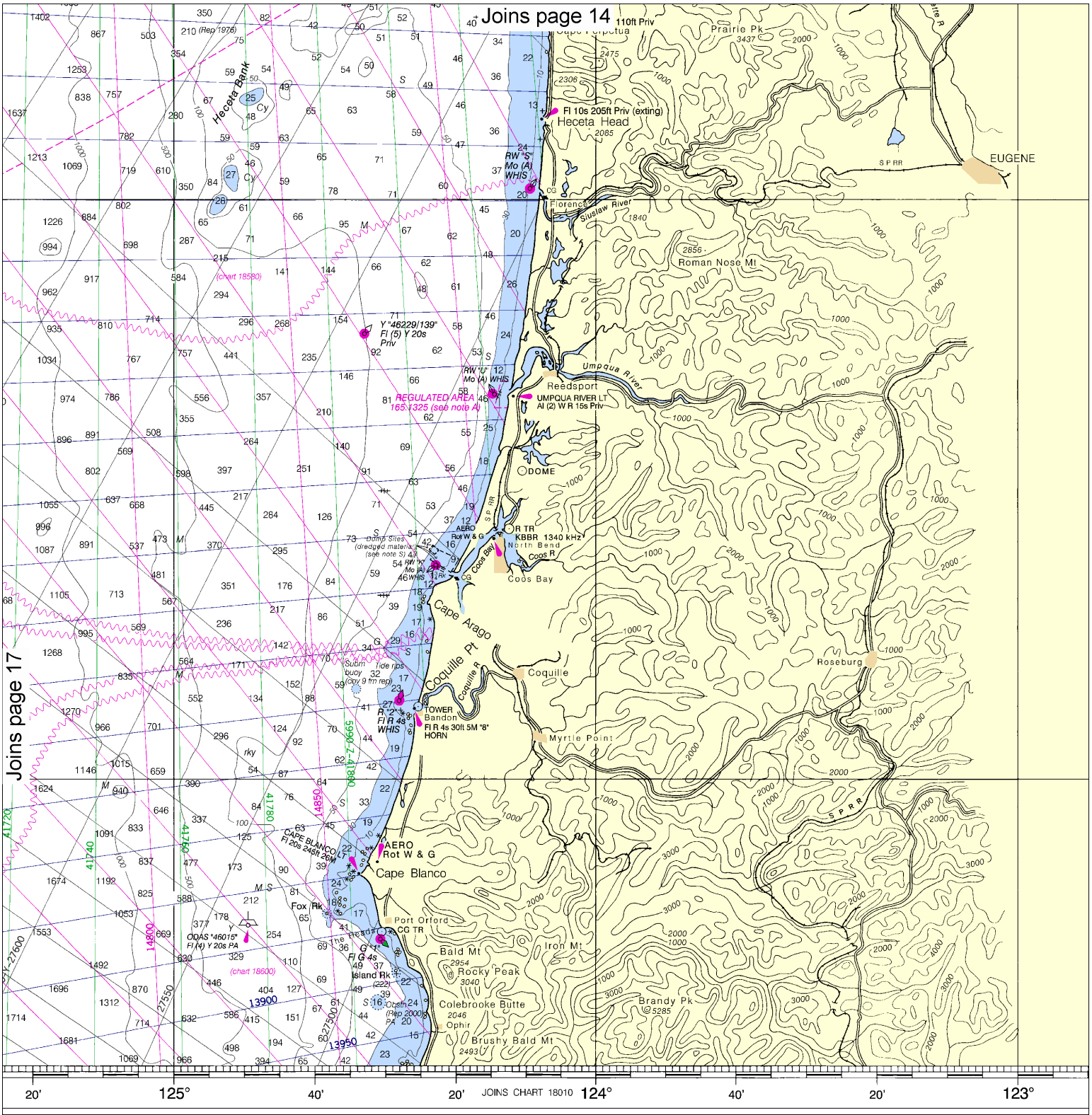


NDINGS IN FATHOMS

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

PRINT-ON-DEMAND CHARTS

NOAA and its partner, OceanGrafix, offer this cha
updated weekly by NOAA for Notices to Mariners a
critical corrections. Charts are printed when order
using Print-on-Demand technology. New Editions a
available 5-8 weeks before their release as traditior
NOAA charts. Ask your chart agent about Print-on-Dema
charts or contact NOAA at 1-800-584-468
http://NauticalCharts.gov, help@NauticalCharts.gov,
OceanGrafix at 1-877-56CHART, http://OceanGrafix.cc
or help@OceanGrafix.com.



HOMS

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

PRINT-ON-DEMAND CHARTS

NOAA and its partner, OceanGrafix, offer this chart updated weekly by NOAA for Notices to Mariners and critical corrections. Charts are printed when ordered using Print-on-Demand technology. New Editions are available 5-8 weeks before their release as traditional NOAA charts. Ask your chart agent about Print-on-Demand charts or contact NOAA at 1-800-584-4683, http://NauticalCharts.gov, help@NauticalCharts.gov, or OceanGrafix at 1-877-56CHART, http://OceanGrafix.com, or help@OceanGrafix.com.

FATHOMS	1	2	3	4	5	6	
FEET	6	12	18	24	30	36	
METERS	1	2	3	4	5	6	7	8	9	10	11	1

Note: Chart grid lines are aligned with true north.

SOUNDINGS IN FATHOM
AT MEAN LOWER LOW WATER

Joins page 15

Additional information can be obtained at nauticalcharts.noaa.gov.

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.

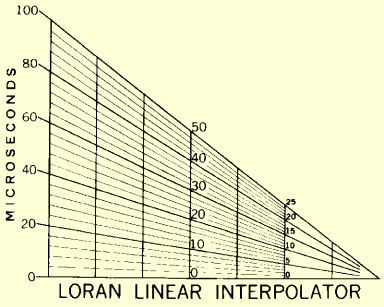
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, Geological Survey, U.S. Coast Guard, National Geospatial-Intelligence Agency, and Canadian authorities.



LORAN LINEAR INTERPOLATOR

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

NOTE B

Mariners should use caution as naval craft may be maneuvering within the areas. For further information consult U.S. Coast Guard Local Notice to Mariners.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

MAGNETIC VARIATION

Magnetic variation curves are for 2006 derived from 2005 World Magnetic Model and accompanying secular change. If annual change is in same direction as variation it is additive and the variation is increasing. If annual change is opposite in direction to variation it is subtractive and the variation is decreasing.

LORAN-C

GENERAL EXPLANATION

LORAN-C FREQUENCY ..... 100kHz.

PULSE REPETITION INTERVAL

9940 .....99,400 Microseconds

5990 .....59,900 Microseconds

STATION TYPE DESIGNATORS: (Not individual station letter designators)

M .....Master

W .....Secondary

X .....Secondary

Y .....Secondary

Z .....Secondary

EXAMPLE: 9940-X

RATES ON THIS CHART

9940-W 9940-X 9940-Y

5990-X 5990-Y 5990-Z

The Loran-C lines of position overprinted on this chart have been prepared for use with ground wave signals and are presently compensated only for average theoretical propagation delays which have not yet been verified by observed data. Mariners are cautioned not to rely entirely on the lattices in inshore waters. Skywave corrections are not provided.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, Washington or at the Office of the District Engineer, Corps of Engineers in Seattle, Washington.

Refer to charted regulation section numbers.

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

44°
40'
20'
43°
40'

40' 20' 122° 40' 20' 121°

978.1 X 753.7 mm

ED. NO. 20
NSN 7642014011485
NGA REFERENCE NO. 18ACO18003

7 8 9 10 11 12 13 14 15 16 17
42 48 54 60 66 72 78 84 90 96 102
12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Cape Blanco to Cape Flattery

SOUNDINGS IN FATHOMS - SCALE 1:736,560

18003

LORAN-C OVERPRINTED

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

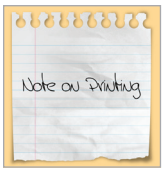
All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

Nautical chart related products and information	—	**http://www.nauticalcharts.noaa.gov**
Online chart viewer	—	**http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html**
Report a chart discrepancy	—	**http://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx**
Chart and chart related inquiries and comments	—	**http://ocsdata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs**
Chart updates (LNM and NM corrections)	—	**http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html**
Coast Pilot online	—	**http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm**
Tides and Currents	—	**http://tidesandcurrents.noaa.gov**
Marine Forecasts	—	**http://www.nws.noaa.gov/om/marine/home.htm**
National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
Contact Us	—	**http://www.nauticalcharts.noaa.gov/staff/contact.htm**

twitter —— For the latest news from Coast Survey, follow **@nauticalcharts**



This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

NOAA's Office of Coast Survey The Nation's Chartmaker